Office of the Surgeon General

Teleconsultation Program

For

Deployed Healthcare Professionals

Chuck Lappan
LTC (Retired)

7 March 2013

SRMC Project Manager, Teledermatology Program

OTSG Consult Manager, AKO Teleconsultation Program

Orthopedics

Image

Referring Provider's Narration

I saw a 34 year old male today with a history of "jamming" his 2nd finger while evasive driving three months prior. At that time he says it was immediately dislocated laterally, but he relocated himself right away. He was seen by a downrange medic at that time and was put in a rudimentary splint which he says he only wore for one day. He now presents with his 2nd digit fixed as seen in the attached picture. He is at his full range of extension of his PIP in the photo. On exam he has extensor capability of the DIP, but none of the PIP suggesting a tear of the central slip of digitorum communis tendon. Collateral ligaments seem to be grossly intact, but there is some laxity when valgus stress is applied. He does tend to avoid use of his left hand (he is right handed), there is moderate pain with palpation of the joint, and axial stress, however this has not changed in three months according to the patient. I am generally familiar with the management of this condition in the acute setting, but my clinical question is related to the management in the now chronic setting. He ias been doing desk work for the last couple of months, but is now staging to go back into the field where he will be possibly subjected to manual labour, building and tearing down camps, etc. Is there an urgency to getting this repaired sooner than later, given that it is already now chronic? What are the possible complication if he doesn't get surgery and continues to use his finger more?

Orthopedic Consultant's Recommendation

This is not emergent, however, he can improve the long term results and keep from losing more time by endeavoring through Active and Passive ROM exercises to restore full range - even if it is only passive. Using a splint that holds him in maximum extension at the pipj every night and making it straighter as he improves will also help. Alumifoam and Coban are effective. It is like watching grass grow but exercise And splints - daily- can make huge progress over time. If he ignores it or protects it, the stiffness will be harder to address later. Have him exercise the dipj also, don't let it get stiff or stuck in extension.

Has he had an XR? Always a question of joint injury. Still pretty safe to work on motion now since it has been 3 mos. if he has a malunion his prognosis is worse.

Also, best to tell him his finger will probably not be quite the same as pre injury no matter what is done now, including any type of surgery.

Outcome

Thank you very much for the quick reply - with this information we'll be able to keep this guy in the field and hopefully improve his outcome.

His plain films were normal, as best we could tell (quality from the local clinic was not the best), but definitely no non-union.

We appreciate your assistance!
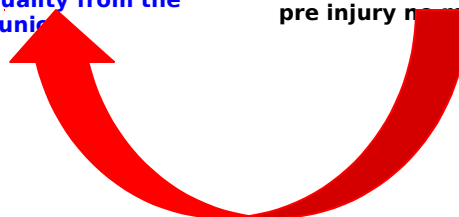
Problem

- Deployed Healthcare providers deployed did not have a standardized
  methodology to receive expert teleconsultation services

- Providers contacted colleagues at their home station

- Reserve Component providers contacted colleagues at civilian facilities

- Providers unnecessarily evacuated patients they could have treated at
  their location with expert consultative assistance

Objective

- Develop a user-friendly enterprise teleconsultation
  system to support deployed medical personnel

Solution

- Army Knowledge Online (AKO) Email in Support of
  Electronic Medical Consultation by Deployed Providers

  ✓ Army Medical Command Policy Memo 13-009 dated 20 Feb 2013

  ✓ Supersedes MECOM Policy Memo 09-034 dated 4 June

Overview of OTSG Telemedicine Teleconsultation System

- **Specialties organized with email utility groups**

- **Consultants supervise their respective teleconsultation service,
  ensure the scheduling and availability of medical staff with
  consultants from all branches**

- **Program oversight by a Consult Manager**

  - ➢ **Manages requests for specialties not organized by utility group**

  - ➢ **Evaluates specialties for development into utility groups**

  - ➢ **Submits monthly reports**

- **Not available to**

  - ➢ **Providers in CONUS**

  - ➢ **OCONUS fixed – based facilities**

  - ➢ **Individual patients and their families**

- **No restrictions on patient branch of service or nationality**

  - ➢ **If the patient comes to your clinic and you need assistance send the consult**

  - ➢ **Available to MEDCAP patients**

- **Consults are answered every day of the week including weekends and holidays**

- **Consult Manager receives all teleconsultations**

Pityriasis Rosea

- **Program Advantages**

  - ➤ **Ease of operation**

    - ✓ **NIPRNET ... Store – and – Forward**

  - ➤ **Rapid response ... many answered within 5 hours**

- **Program Advantages**

  - ➤ **Obtain a diagnosis, treatment options,**
       how – to / what – if

- **Depending on the tactical situation may be**
   the safest way to obtain medical advice

- **On – line collaboration between specialties**

Dyshidrotic Eczema

Summary

- **Program Summary**

  ➢ **19 specialties with contact groups: xxx.consult@us.army.mil**

  ➢ **10,968 teleconsultations (Apr 04 to Feb 13 – 107 months)**

  ➢ **152 known evacuations prevented**

  ➢ **519 known evacuations facilitated following consultant's recommendat**

  ➢ **2,705 different referring health care professionals**

 ➢ **1,234 teleconsultations on non - US patients**

  ➢ **Reply Time History**

Year	Average Reply Time	Median Reply Time
2004	5 hr 9 min	3 hr 55 min
2005	5 hr 16 min	3 hr 32 min
2006	5 hr 12 min	3 hr 30 min
2007	5 hr 8 min	3 hr 4 min
2008	4 hr 58 min	3 hr 11 min
2009	5 hr 11 min	3 hr 10 min
2010	5 hr 13 min	3 hr 23 min
2011	5 hr 12 min	3 hr 22 min
2012	5 hr 36 min	2 hr 57 min
2013	6 hr 20 min	2 hr 54 min
Feb	4 hr 58 min	2 hr 24 min
Program	5 hr 15 min	3 hr 18 min

Non-U.S. Patients			
Country	Consults	Country	Consults
Afghanistan Army	62	India Contactor	24
Afghanistan Detainee	18	Iraqi Military	48
Afghanistan Non-Combatant	382	Iraqi Civilian	309
Australian Army	5	Iraqi Detainee	86
Australian Navy	2	Italian Navy	2
Bangladesh Contractor	1	Jordanian National	2
Bosnian National	3	Jordanian Soldier	2
Bosnian Contractor	4	Kenya National	9
Bosnian Officer	1	Korean	6
Botswana Child	1	Kuwait National	2
British Air Force	3	Kyrgyzstan Contractor	1
British Contractor	2	Laotian National	3
British Soldier	2	Liberian Children	2
Bulgarian Army	3	Macedonian Soldier	5
Canadian Contractor	1	Mauritania National	1
Canadian Soldier	27	Middle East, Not Specified	1
Canadian Navy	9	Mongolian National	1
Columbia National	7	Nepalese National	16
Congo Child	1	Netherland Army	2
Denmark Contractor	1	New Zealand Contractor	1
Djibouti National	5	Pakistan	30
Dutch Army	4	Philippine National	23
Egyptian Contractor	1	Poland Army	3
Ethiopian National	3	Romanian Contractor	1
Fijian Contractor	5	Romanian Soldier	15
Georgia Contractor	1	Russian AFEES Contractor	1
German Child (in Turkey)	1	Saudi Detainee	1
German Contractor	1	Scottish Civilian	2
German Soldier	2	SE Asian (not specified)	1
Ghana National	5	Sierra Leon Contractor	1
Guatemala Child	1	Somalia Child	1
Guam Contractor	1	South Africa Contractor	3
Haitian National	2	Sri Lanka Contractor	2
Honduran National	1	Sudan Nationals	8
Hungarian Army / Police	12	Turkey Contractor	3
Hungarian Contractor	1	Uganda National	33
India Army / Police	1	Uruguay Contractor	1
Total			1,234

Reply Times Summary

Reply Time Percentages

97.86% of all teleconsultations were answered in 24 hours or less
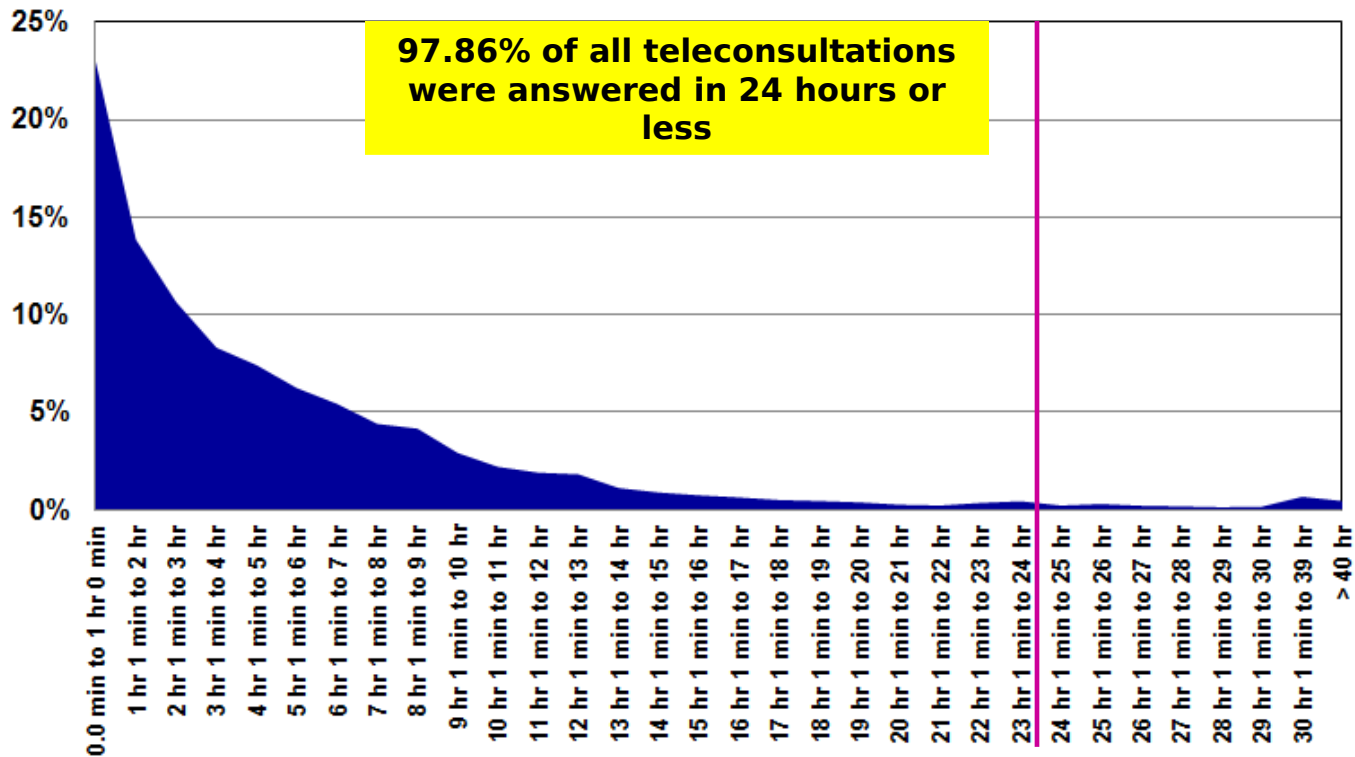
15 min or less	5.7%
16 to 30 min	6.6%
31 to 45 min	6.0%
46 to 60 min	4.7%
Total ≤ 60 min	23.0%

Time	%
0.0 min to 1 hr 0 min	22.97%
1 hr 1 min to 2 hr	13.84%
2 hr 1 min to 3 hr	10.64%
3 hr 1 min to 4 hr	8.30%
4 hr 1 min to 5 hr	7.40%
5 hr 1 min to 6 hr	6.23%
6 hr 1 min to 7 hr	5.42%
7 hr 1 min to 8 hr	4.39%
8 hr 1 min to 9 hr	4.15%
9 hr 1 min to 10 hr	2.90%
10 hr 1 min to 11 hr	2.18%
11 hr 1 min to 12 hr	1.89%
12 hr 1 min to 13 hr	1.80%
13 hr 1 min to 14 hr	1.10%
14 hr 1 min to 15 hr	0.87%
15 hr 1 min to 16 hr	0.72%
16 hr 1 min to 17 hr	0.61%
17 hr 1 min to 18 hr	0.48%
18 hr 1 min to 19 hr	0.43%
19 hr 1 min to 20 hr	0.36%
20 hr 1 min to 21 hr	0.24%
21 hr 1 min to 22 hr	0.20%
22 hr 1 min to 23 hr	0.33%
23 hr 1 min to 24 hr	0.42%
24 hr 1 min to 25 hr	0.20%
25 hr 1 min to 26 hr	0.27%
26 hr 1 min to 27 hr	0.19%
27 hr 1 min to 28 hr	0.15%
28 hr 1 min to 29 hr	0.11%
29 hr 1 min to 30 hr	0.14%
30 hr 1 min to 39 hr	0.65%
> 40 hr	0.43%

Program Summary

- **Specialties with utility groups**

  - ➤ **Burn-trauma: burntrauma.consult@us.army.mil**
  - ➤ **Cardiology: cards.consult@us.army.mil**
  - ➤ **Dermatology: derm.consult@us.army.mil**
  - ➤ **Dental: dental.consult@us.army.mil + 7 sub-groups**
  - ➤ **Infectious Diseases: id.consult@us.army.mil (linked to Prev Med)**
  - ➤ **Infection Control: infect.cntrol.consult@us.army.mil**
  - ➤ **Internal Medicine: im.consult@us.army.mil**
  - ➤ **Microbiology / Laboratory: microbiology.consult@us.army.mil**
  - ➤ **Nephrology: nephrology.consult@us.army.mil**
  - ➤ **onsult@us.army.mil**
  - ➤ **ometry: e...nil**

Smallpox Vaccine Reaction

Program Summary

- Orthopedics / Podiatry: **ortho.consult@us.army.mil**
- Pain Management: **pain.painmanagement@us.army.mil**
- Pediatrics Intensive Care: **picu.consult@us.army.mil**
- Preventive Medicine: **pmom.consult@us.army.mil**
- Rheumatology: **rheum.consult@us.army.mil**
- Toxicology: **toxicology.consult@us.army.mil**
- Traumatic Brain Injury: **tbi.consult@us.army.mil**
- Sleep Medicine: **sleep.e.consult@us.army.mil**
- Urology: **urology.consult@us.army.mil**

- **Other Specialties "as requested"**
  - Allergy
  - Endocrinology
  - ENT
  - Flight Medicine
  - Gastroenterology
  - General Surgery
  - Hematology
  - Legal
  - Mental Health
  - Neurosurgery
  - OB-GYN
  - Oncology
  - Pharmacy
  - Plastic Surgery
  - Radiology
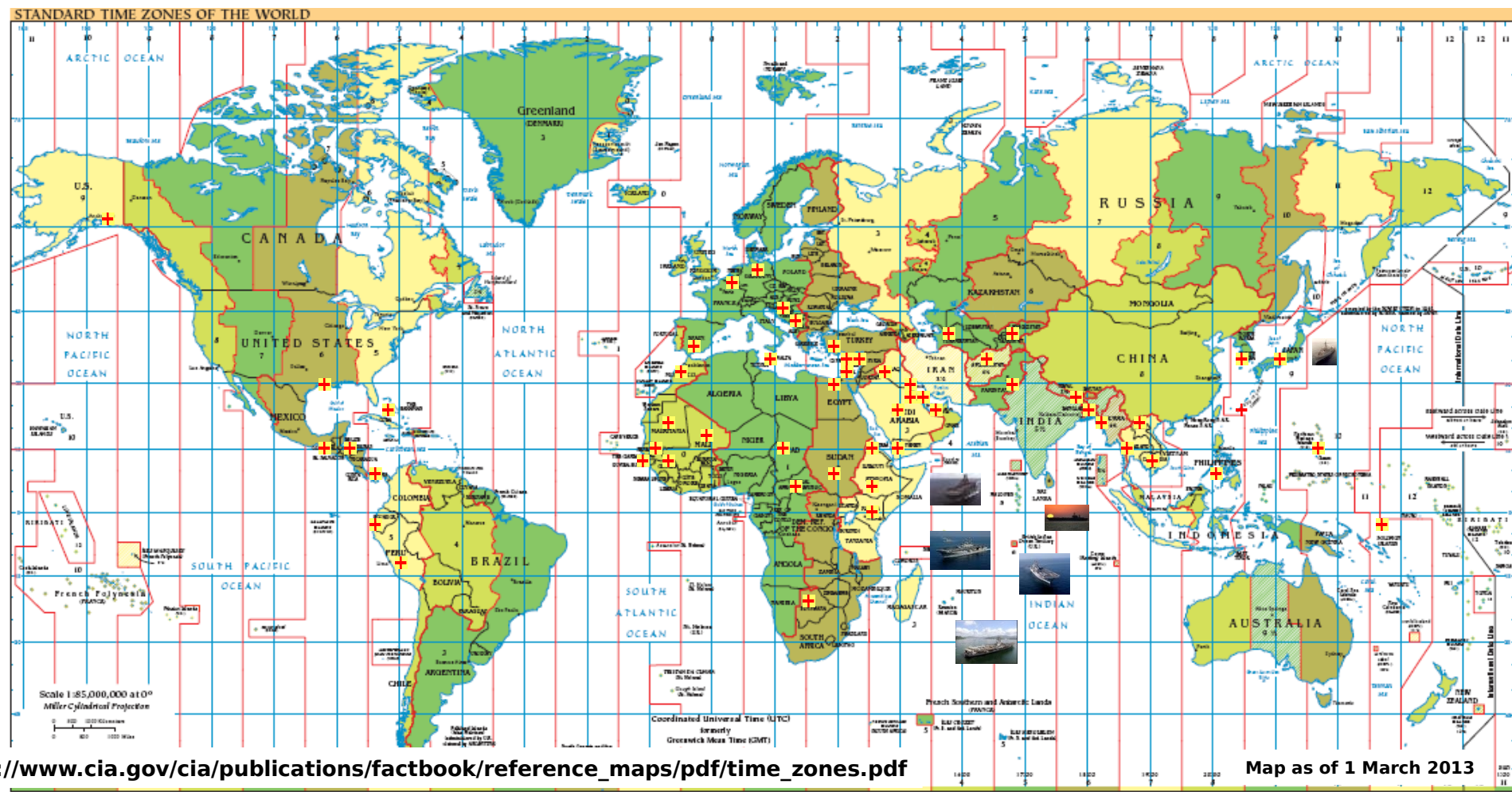 - Speech Pathology
  - Vascular Surgery
  - Vaccine Centers Networks

- **Contact Consult Manager for assistance: charles.m.lappan.civ@mail.mil**

AKO Teleconsultation Program Business Practice For Deployed Providers

Provider sends f/u or questions/info to group

Deployed Provider emails consultation

Specialty with Contact Group

Yes   **No**

Include **charles.m.lappan.civ@mail.mil** *in the "cc" address*

Consultant emails recommendation to the deployed physician

-----Original Message-----
From: ZZZZZZ, XXXXX MAJ
Sent: Monday, May 28, 2007 10:00 PM
To: XXXXXXXX
Subject: RE: Teleconsultation

COL XXXXX

The lesion appears to be a prurigo nodule. They occur from repeated scratching rubbing. Many times it is formed from habit alone, but also they they can occur from a primary lesion (such as a wart, insect bite, other). You have many treatment options. You can try a trial of cryotherapy (5 second freeze), shaving the lesion off, intralesional kenalog, topical steroids are among the most common forms of treatment. The main goal is to get the patient to leave the lesion alone. Thank you for the consult.

Respectfully,

XXXXXX XXXXXXX MD
MAJ, MC, USA
Chief, Dermatology
XXXXXXX

-----Original Message-----
From: XXXX XXXXXXXX
Sent: Tuesday, May 29, 2007 2:31 AM
To: 'derm.consult@us.army.mil'
Subject: Teleconsultation

In any care, the attached images are of a 47 y/o healthy male with a recurring (several months) 4 mm scar on posterior wrist, ulnar aspect.

Patient kept scratching it and when saw primary provider stateside (before deploying), provider said it was from the irritation and leaving it alone would make it go away.

Now after several months the lesion recurs (no worse than original, no spreading), patient continues to pick at it when the central core spreads to about 3 mm (since it itches).

No treatments were attempted, no labs obtained. There may or may not be cyro for freezing.

DDx: 1. Wart
     2. Scar that recurs due to patient irritation.

Thank you very much, in advance, for this great pr <<DSC05694.JPG>> ogram. It is nice to be in theater, knowing you do what you do.

Les

XXXXX XXXXXX
Col, USAF, MC

Consultant retrieves and reviews teleconsultation

Teleconsultation is routed to the appropriate

e-Mail xx.consult@us.army.mil from deployed provider → Routed to AKO server: xx.consult@us.army.mil

DISA server routes to consultants ← Routed to DISA server from AKO server

Teleconsultation emailed to Consult Manager

Finds consultant with appropriate expertise

Copy furnished to specialty group... confirms teleconsultation is answered and enables collaboration

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Locations Submitting Teleconsultations

STANDARD TIME ZONES OF THE WORLD

//www.cia.gov/cia/publications/factbook/reference_maps/pdf/time_zones.pdf

Map as of 1 March 2013

Supported Facility

Afghanistan	Chad	Germany	Jordan	Nepal	Spain	US,
Albania	Continental US	Ghana	Kenya	Okinawa	Sudan	Canadian
Bahrain	Djibouti	Guam	Kuwait	Pakistan	Thailand	&
Bangladesh	Ecuador	Guatemala	Kyrgyzstan	Peru	Turkey	Australian
Belgium	Egypt – MFO Sinai	Guinea	Laos	Philippine	Turkmenistan	Navy
Belize	El Salvador	Hurricane	Mali	Qatar	Ukraine	afloat
Bosnia	Ethiopia	Katrina	Mauritania	Saudi Arabia	United Arab Emirates	
Botswana	Haiti Relief	Italy - Sicily	Morocco	Senegal	Yemen	
Congo	Honduras	Japan		Solomon Islands		

Quick Summary

Top Specialties FY-13 xx.consult@us.army.mil

Dermatology: 23.4%
Orthopedics: 13.1%

Top Patient Branch

Army: 44.5%
Navy: 12.5%
Marines: 11.9%

Top "Other Specialties" FY-13

Gastroenterology
Endocrinology
Otolaryngology

Top Locations FY-

Afghanistan: 41.8%
Navy Afloat: 14.2%
Kuwait: 12.2%

ATV Accident

FY 13

Afghanistan % Consultations		
Oct	Nov	Dec
45%	27%	50%

Navy % Consultations		
Oct	Nov	Dec
20%	15%	13%

Jan	Feb	Mar
41%	43%	####

Jan	Feb	Mar
9%	16%	####

Evacuations Summary

Evacuations Prevented Following Teleconsultation		
Summary	Number	%
Audiology	1	1%
Burn Trauma	1	1%
Cardiology	12	8%
Dermatology	46	30%
Endocrinology	1	1%
Gastroenterolgy	3	2%
Hematology	1	1%
Infectious Diseases	4	3%
Internal Medicine	1	1%
Mental Health	1	1%
Nephrology	4	3%
Neurology	3	2%
Neurosurgery	3	2%
OB-GYN	2	1%
Oncology	1	1%
Ophthalmology	7	5%
Orthopedics	34	22%
Otolaryngology	8	5%
Radiology	1	1%
Rheumatology	4	3%
TBI	1	1%
Urology	13	9%
Total	152	

MRSA

Squamous Cell Carcinoma

Based on some feedback from one deployed provider, this figure is probably under-stated.

Evacuations Facilitated Following Teleconsultation		
Summary	Number	%
Allergy	2	0.4%
Audiology	1	0.2%
Burntrauma	6	1%
Cardiology	46	9%
Dermatology	41	8%
Dental	2	0.4%
Endocrinology	17	3%
Gastroenterology	16	3%
General Surgery	4	0.8%
Gyncology	1	0.2%
Hematology	3	0.6%
Infectious Diseases	16	3%
Internal Medicine	30	6%
Nephrology	20	4%
Neurology	116	22%
Neurosurgery	3	0.6%
OB-GYN	2	0.4%
Oncology	1	0.2%
Ophthalomogy	23	4%
Orthopedics	82	16%
Otolarynology	10	2%
Preventive Medicine	1	0.2%
Pulmonary Diseases	4	1%
Radiology	1	0.2%
Rheumatology	23	4%
Sleep Medicine	1	0.2%
TBI	8	2%
Urology	38	7%
Vascular Surgery	1	0.2%
Grand Total	519	

Program Summary By Specialty
(organized into formal teleconsultation groups)

	Total Consults By FY										Program Totals	% Consults Program
	2004 Totals	2005 Totals	2006 Totals	2007 Totals	2008 Totals	2009 Totals	2010 Totals	2011 Totals	2012 Totals	2013 Totals		
Burn-Trauma		23	24	19	32	31	13	17	10	8	177	1.6%
Cardiology		2	67	41	61	67	84	51	32	10	415	3.8%
Dental						14	15	21	5	3	58	0.5%
Dermatology	321	543	528	467	562	526	560	543	281	79	4,411	40.2%
Infection Control						11	11	16	4	4	46	0.4%
Infectious Diseases		82	110	106	100	110	110	100	69	28	815	7.4%
Internal Medicine				34	50	57	64	70	53	10	338	3.1%
Microbiology						8	7	3	1	1	20	0.2%
Nephrology		13	18	33	30	29	20	19	19	1	182	1.7%
Neurology				78	123	145	123	129	69	18	685	6.2%
Ophthalmology	10	51	38	54	70	65	56	81	49	26	500	4.6%
Orthopedics				11	105	169	142	227	137	44	835	7.6%
Pediatrics		8	21	27	24	20	15	7	6	1	129	1.2%
Prvt Med			3	13	13	25	26	25	23	9	137	1.2%
Rehabilitation			1						0	0	1	0.01%
Rheumatology			13	26	20	21	32	35	19	7	173	1.6%
Sleep Medicine						12	5	16	4	3	40	0.4%
Toxicology		2	19	15	14	8	14	15	11	2	100	0.9%
Traumatic Brain Injury					8	42	63	74	34	2	223	2.0%
Urology				6	69	108	114	125	64	18	504	4.6%
Other Specialties		7	61	124	178	185	180	245	136	63	1,179	10.7%
Totals	331	731	903	1,054	1,459	1,653	1,654	1,819	1,026	337	10,968	

Program Summary By Specialty
(not organized into formal groups)

Specialty	Other Specialty Summary By FY									Program Totals	% Consults Program
	2005 Totals	2006 Totals	2007 Totals	2008 Totals	2009 Totals	2010 Totals	2011 Totals	2012 Totals	2013 Totals		
Administrative			1	3	2	1	2	2	2	13	1%
Allergy	2	1	2	3	8	10	28	14	4	72	6%
Dental				1						1	0.1%
Diving				1					0	1	0.1%
Endocrinology	1	4	12	16	26	13	20	16	8	116	9.8%
Flight Medicine			1			5	1	2	1	10	0.8%
Gastroenterology		2	13	34	39	30	30	21	14	183	15.5%
Hematology			4	7	15	19	11	7	6	69	6%
Judge Advocate General			2						0	2	0.2%
Line of Duty				1					0	1	0.1%
Medical Translation				1					0	1	0.1%
Neurology	1	10	1							12	1%
Neurosurgery		4	5	3	3	3	3	10	2	33	3%
Nutrition			1				1		0	2	0.2%
OB-GYN		2	14	25	16	17	19	8	3	104	8.8%
Oncology			3	6		4	3	1	1	18	2%
Oral Pathology	1	2	4	4						11	1%
Orthopedics		14	12							26	2%
Otolaryngology		2	16	28	45	50	76	24	10	251	21.3%
Pathology				1	1			1	0	3	0.3%
Pain Relief & Rehab							3	1	0	4	0.3%
Pharmacy			2	2			1	1	0	6	1%
Plastic Surgery		1	1		1	2		1	0	6	0.5%
Preventive Medicine	1	1								2	0.2%
Psychiatry / Mental Health			1	6	5	8	15	4	1	40	3.4%
Pulmonary Diseases	1	1	4	16	8	7	13	6	1	57	4.8%
Radiology		2	3	13	7	3	10	11	6	55	4.7%
Speech Pathology		1					1		0	2	0.1%
Surgery			2	4	8	4	4	3	3	28	2.4%
Traumatic Brain Injury			2	1					0	3	0.3%
Urology		13	15						0	28	2.4%
Vascular Surgery		1	3	2	1	3	3	2	1	16	1.4%
Veterinary Medicine							1	1	1	0	3	0.3%
Total	7	61	124	178	185	180	245	136	63	1,179	

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Program Summary By Location
(submitting 100 or more teleconsultations)

	Location of the Referring Physician										Program Totals	% Consults Program
	2004 Totals	2005 Totals	2006 Totals	2007 Totals	2008 Totals	2009 Totals	2010 Totals	2011 Totals	2012 Totals	2013 Totals	Program Totals	% Consults Program
Major Facilities >100 Consults	286	682	827	1,008	1,378	1,586	1,570	1,745	936	293	10,403	95%
Afghanistan	6	80	127	131	160	346	610	744	496	141	2,841	26%
CONUS		20	17	19	26	16	37	29	27	12	203	2%
Djibouti				18	20	46	10	49	68	25	236	2%
Egypt (MFO)	1	22	16	11	3	26	14	67	27	12	199	2%
Honduras		1			22	19	6	11	32	9	100	1%
Iraq	197	477	570	755	1,059	905	621	509	46	1	5,141	47%
Kuwait	64	52	32	20	15	62	65	99	77	41	527	5%
Qatar	2	27	37	32	46	18	37	68	34	4	305	3%
US Navy Afloat	16	4	28	22	49	167	176	180	161	48	851	8%

8 Day Fracture Treatment Sequence
Remote Provider – Motorcycle Accident

1
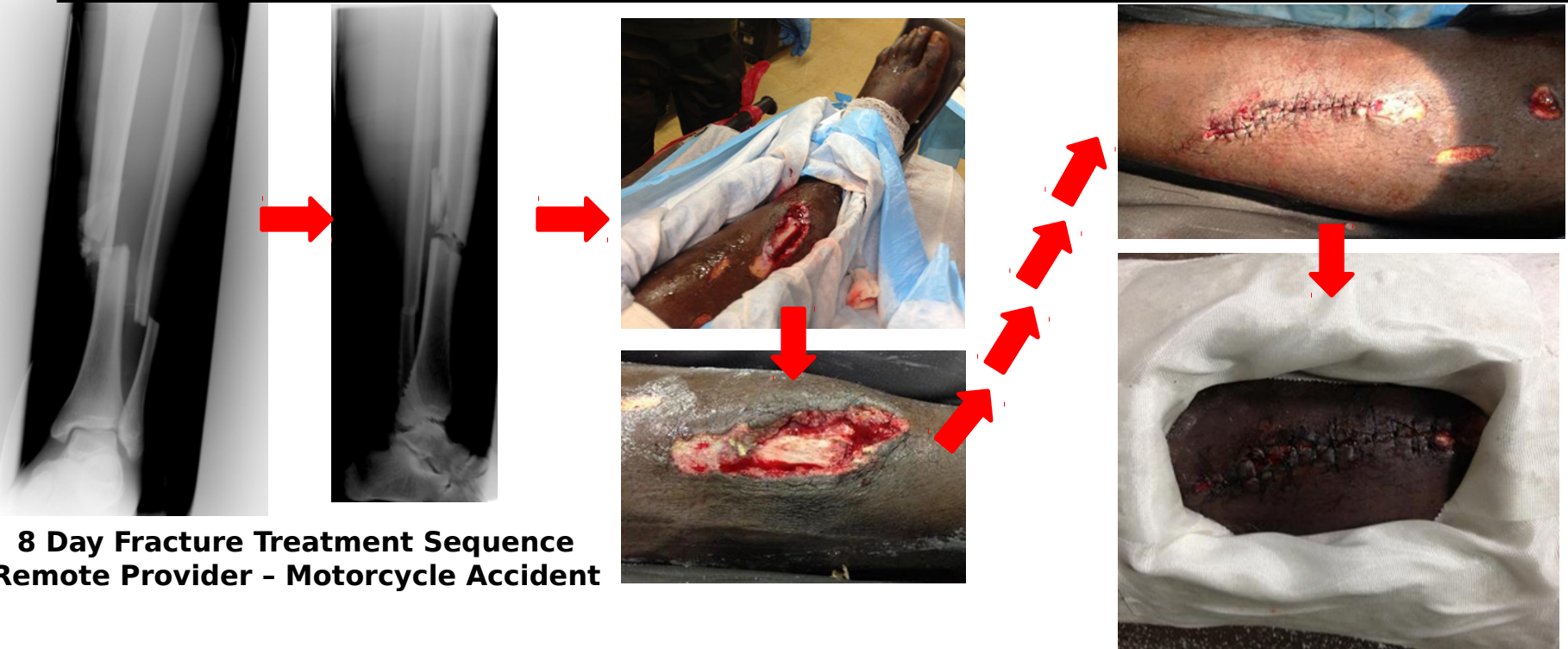
Program Summary By Location
(submitting less than 100 teleconsultations)

	Location of the Referring Physician										Program Totals	% Consults Program
	2004 Totals	2005 Totals	2006 Totals	2007 Totals	2008 Totals	2009 Totals	2010 Totals	2011 Totals	2012 Totals	2013 Totals		
Minor Facilities <100 Consults	45	49	76	46	81	67	84	74	90	44	565	5.2%
Albania					1	1				0	2	0.02%
Bahrain						8	4	5		8	25	0.2%
Bangladesh								1	1	0	2	0.02%
Belgium								1		0	1	0.01%
Belize				2		1				0	3	0.03%
Bosnia	25	22	5	2		3		9	10	0	76	0.7%
Botswana					1					0	1	0.01%
Canada Navy Afloat								6	2	1	9	0.1%
Chad		1		1						0	2	0.02%
Congo						4				0	4	0.04%
Cuba (GTMO)			1			1			9	2	13	0.1%
Diego Garcia			2	1	3					0	6	0.1%
Ecuador				11						0	11	0.1%
El Salvador								2		0	2	0.02%
Ethiopia										0	0	0.00%
Germany		9	6	2	1	3	1	1	2	0	25	0.2%
Ghana						2	1	2		0	5	0.05%
Guam						1	3			0	4	0.04%
Guatemala						1				0	1	0.01%
Guinea						1				0	1	0.01%
Haiti							4			0	4	0.04%
Italy			5	1	2	2				0	10	0.1%
Japan								1	3	1	5	0.05%
Jordan									1	0	1	0.01%
Kenya				4		2				2	8	0.1%
Korea			3	1	1	1	6	12	4	1	29	0.3%
Kyrgyzstan		2	5		23	3	30	15	10	3	91	0.8%
Laos								3		0	3	0.03%
Liberia									5	0	5	0.05%
Mali						1				0	1	0.01%
Mauritania						1		2		0	3	0.03%
Morocco				4						0	4	0.04%
Nepal				2					1	0	3	0.03%
Okinawa		1			1	1	1	2	1	0	7	0.1%
Pakistan	1	2	38			1	2			0	44	0.4%
Peru					1					0	1	0.01%
Philippines				2	2	1			3	2	10	0.1%
Saudi Arabia										3	3	0.0%
Senegal						1	2			0	3	0.03%
Solomon Islands										1	1	0.01%
Spain						1				0	1	0.01%
Sudan										13	13	0.12%
Thailand						1	4		2	0	7	0.1%
Turkey		2	6	6	1					0	15	0.1%
Turkmenistant					1					0	1	0.01%
Ukraine								1		0	1	0.01%
United Arab Emirates			1	6	12	14	17	1		1	52	0.5%
United Kingdom (England)									3	6	9	0.08%
Yemen								1		0	1	0.01%
Not Stated / Other	19	9	4	1			2		1	0	36	0.3%
Total	331	731	903	1,054	1,459	1,653	1,654	1,819	1,026	337	10,968	

Detailed Summary - Patient Branch of Service

	Patient Branch By FY										Program	% Consults
	2004 Total	2005 Total	2006 Total	2007 Totals	2008 Totals	2009 Totals	2010 Totals	2011 Totals	2012 Totals	2013 Totals	Program Totals	% Consults Program
Air Force	11	62	85	95	142	96	124	105	56	33	809	7.4%
Army	252	405	431	539	751	888	905	1054	523	150	5,899	53.8%
Coast Guard						5	7	4	1	2	19	0.2%
Marine Corps	8	101	78	149	212	178	174	119	77	40	1,136	10.4%
Navy	18	8	37	30	71	191	161	218	173	42	949	8.7%
Contractor	6	27	30	24	40	36	56	47	34	2	302	2.8%
Detainee	3	13	23	33	15	27	14	2	3	8	142	1.3%
Non-Combatant	13	43	130	87	150	121	132	140	59	36	910	8.3%
Other	1	27	38	45	36	51	30	50	37	10	325	3.0%
Not Stated/NA	19	45	51	52	42	60	51	80	63	14	477	4.3%
Total	331	731	903	1,054	1,459	1,653	1,654	1,819	1,026	337	10,968	

Dorsal Bunion
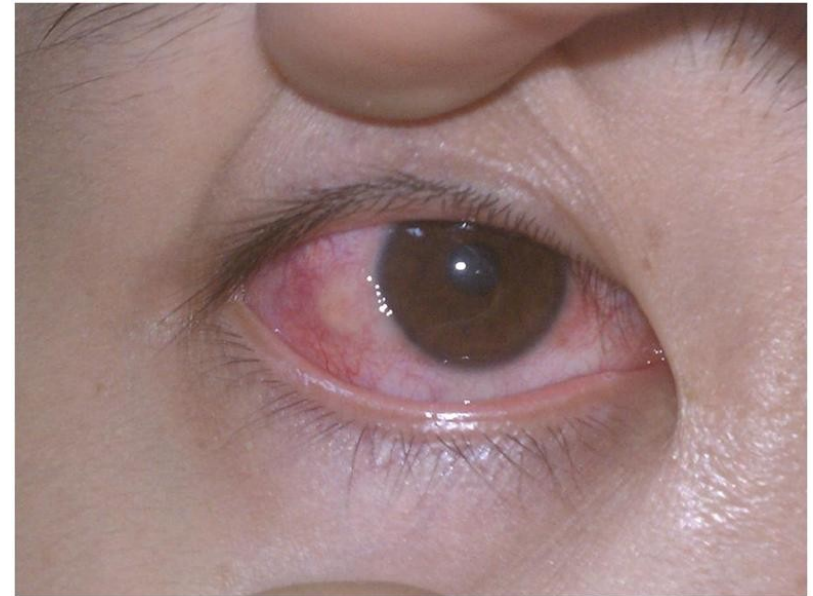
Phlyctenulosis

Program Summary by US Navy Afloat

US Navy Float		
Specialty	Number	%
Orthopedics	249	29.3%
Dermatology	186	21.9%
Ophthalmology	65	7.6%
Urology*	57	6.7%
Neurology*	42	4.9%
Cardiology	41	4.8%
Internal Medicine	35	4.1%
Infectious Diseases	31	3.6%
Otolaryngology	26	3.1%
Rheumatology	13	1.5%
Psychiatry	11	1.3%
Nephrology	10	1.2%
Allergy	9	1.1%
OB-GYN	8	0.9%
Neuro-Surgery	7	0.8%
Endocrinology	6	0.7%
Gastroenterology	6	0.7%
General Surgery	6	0.7%
Pulmonary	6	0.7%
Radiology	6	0.7%
Burn-Trauma	4	0.5%
Dental	4	0.5%
Hematology	4	0.5%
Preventive Medicine	3	0.4%
Traumatic Brain Injury	3	0.4%
Plastic Surgery	2	0.2%
Sleep Medicine	2	0.2%
Toxicology	2	0.2%
Flight Medicine	1	0.1%
Infection Control	1	0.1%
Microbiology	1	0.1%
Pain Management	1	0.1%
Pathology	1	0.1%
Pediatrics	1	0.1%
Vascular Surgery	1	0.1%
Total	851	

* Includes specialties that were initially labeled as "Other Specialties"

Canadian Navy Afloat

Canadian Navy Ship
HMCS Charlottetown
HMCS Toronto
HMCS Vancouver

Ship	
USS Abraham Lincoln	USS John Paul Jones
USS Arden	USS Kauffman
USS Bataan	USS Kearsarge
USS Benfold	USS Kitty Hawk
USS Blue Ridge	USS Klakring
USS Bonhomme-Richard	USS Laboon
USS Boxer	USS Leyte Gulf
USS Bunker Hill	USS Mason
USS Cape St George	USS Mercy
USS Carl Vinson	USS Mitscher
USS Cleveland	USS Monterey
USS Comfort	USS Nashville
USS Comstock	USS New Orleans
USS Dubuque	USS Nimitz
USS Denver	USS Nitze
USS DeWert	USS Pearl Harbor
USS Dwight D. Eisenhower	USS Peleliu
USS Emory S. Land	USS Ponce
USS Enterprise	USS Preble
USS Essex	USS Ronald Reagan
USS Fitzgerald	USS Rushmore
USS Gary	USS Russell
USS George H.W. Bush	USS Samuel Roberts
USS Germantown	USS San Antonio
USS Green Bay	USS Taylor
USS Gridley	USS The Sullivans
USS Guston Hall	USS Theodore Roosevelt
USS Harpers Ferry	USS Tortuga
USS Ingraham	USS Truman
USS Iwo Jima	USS Wasp
USS John C. Stennis	USS Whidbey Island
USS John F. Kennedy	

How To Send A Consult

- **Patient History**

  ➢ **When did it start? Days? Weeks? Months? Years?**

  ➢ **Patient symptoms now?**

  ➢ **Getting better? Worse? Staying the same? Spreading?**

  ➢ **Previous treatments and outcomes?**

  ➢ **Laboratory tests results (if any)?**

  ➢ **Your Dx / DDx**

  ➢ **Limitations you have in managing the patient such as medications, procedures, laboratory tests, etc**

Cast from the Tamm-Horsfall mucoprotein & aggregates of celluar debris (patient with kidney stones)

How To Send A Consult

- Patient Demographics: branch of service, age, and gender.
  If not U.S. military state their nationality.
Identify if
  contractor, detainee, foreign military, etc.

- Include digital images if appropriate

  ➢ Use the jpeg format for images
  ➢ Check images before transmitting
  ➢ Usually 3 to 5 images
  ➢ When in doubt, over

- Other attachments:

  ➢ PDFs of EKGs
  ➢ JPEGs of radiographs
  ➢ Copies of laboratory and pathology reports
  ➢ Do not send DICOM images
  ➢ Do not send photos in RAW format
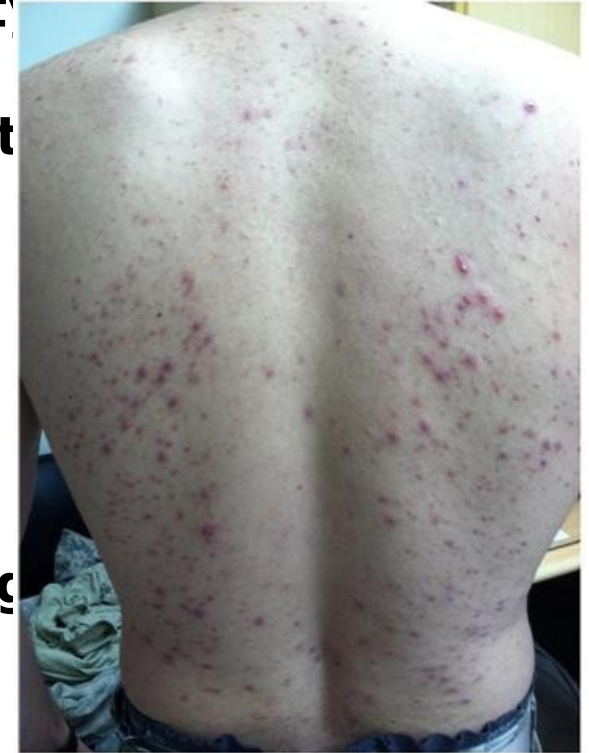
Acne from Occlusion
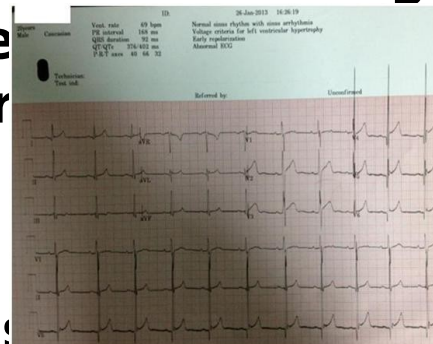
How To Send A Consult

- **Do not include any patient identifying info**
  - ➢ **Do not include the patient's name or SSN**

- **Try to limit one patient per teleconsultation**

- **If you send a consult and later need additional assistance send the teleconsultation to the generic email address of the specialty and not to the consultant who answered your consult**

  - ➢ **Most consultants are on a call-roster and look for consults during the period they are on-call**

  - ➢ **Most delete the consult after they have answered it**

  - ➢ **Consult Manager makes an MSWord file for each consult**

  - ➢ **When a reconsult is sent, the Consult Manager transmits the file to the on-call consultant**

How To Send A Consult

- Each teleconsultation group has a large number of consultants
  who monitor the email

- It is common for you to receive an "Out-of "Full Inbox" reply from one or two consulta

This has happened during the DISA email migration!

- If the entire email comes back to you as

TB v Rhinoscleroma v Gummatous Disease
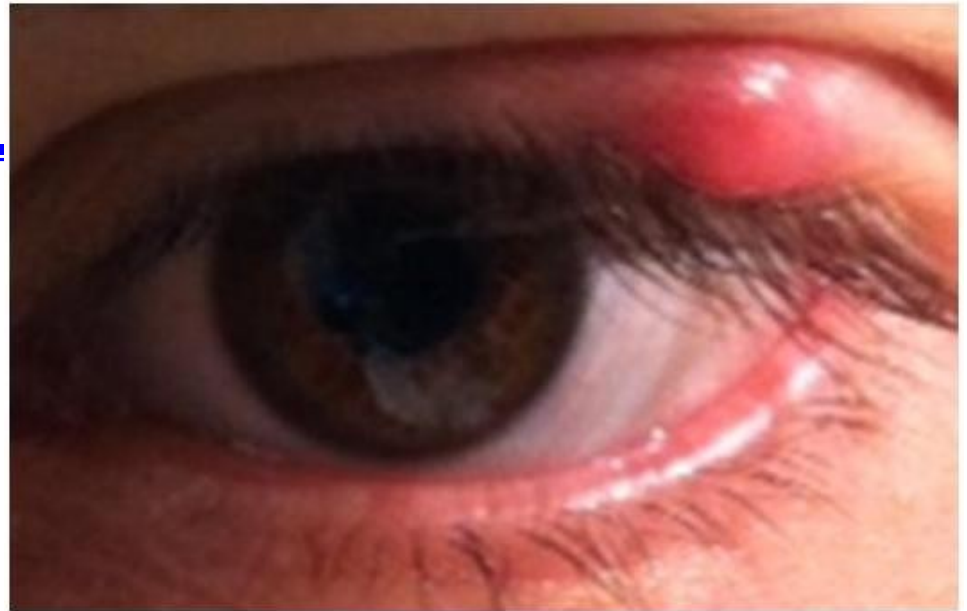
Chalazion with Overlying Stye

Problems

- **Problem**

➢ **DISA Email Migration**

    ✓ **Change of email addresses to @mail.mil**

    ✓ **Will affect consultants who answer teleconsultations**

    ✓ **Completion date scheduled for 31 March 2**

- **Solution**

➢ **Working with DKO officials to ensure smooth transition**

➢ **cc charles.m.lappan.civ@mail.mil in all teleconsultations**

Problems

- **Problem**

  ➢ **MTF blocks email because it exceeds size limitation**

  ✓ **Size limitations varies greatly from 5 to 60+ mB**

  ➢ **Providers have hard time uploading images > 2 mB**

- **Solutions**

  ➢ **Instruct the provider how to set th[e] camera resolution to 1 or 2 mB**

  ➢ **Instruct the provider how to use Picture Manager to compress im[ages]**

  ➢ **Consult Manager compresses larg[e] images and retransmits**
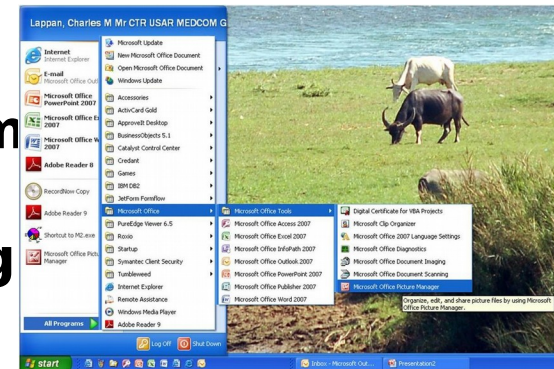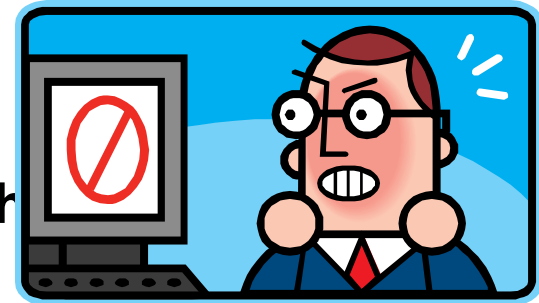
Problems

- **Problem**

  - ➢ **Provider submits digital photographs which are out of focus and / or "inadequate for a diagnosis"**

    - **Solution**

  - ➢ **Consultant either provides a recommendation based on the patient history or asks for new images**

  - ➢ **Consultant or Consult Manager emails the referring provider suggestions on how to take better images**

Original Image

Use the flower

Retransmitted Image

icon for the macro setting

Verruca vulgaris

Problems

- **Problem**

  ➢ **Mr. Lappan will be OCONUS from 10 April thru 12 May 2013**

  ➢ **Not able to answer email during trip**

  - **Solution**

  ➢ **Assign a colleague as additional duty to monitor AKO Program**

  ➢ **AKO email groups will be functional**

  ➢ **There may be a delay in some emails being answered**

  ➢ **If you do not receive a reply within 24 hours resend the teleconsultation**

Everything

You Need To Know

About Digital Photography

For the Teleconsultation Program

In 7 Slides

Digital Cameras

- Equipment
  - PC with USB port
  - Internet access
  - Image Viewing/ Management Softw
    - Microsoft Picture Manager
      - Loaded on all DoD issued computers
  - Cell phones cameras with **good** optics (iPhone, Droid, etc)

- Recommended Camera Features
  - Rugged ... can take the weather
  - Image Stabilization
  - Speed of Operation
  - Aperture F2.8 or better
  - ISO 1600 or better

Go Pro HD2

Dx: Pityriasis lichenoides
    et varioliformis acuta

2.5 mm
F 2.8
1/60th Second
Center Weight Average

Apple iPhone 4

Dx: Plantar Warts

Focal Length: 3.85 mm
F: 2.8
1/15th Second
Pattern Metering

Droid 2 Global

Dx: Lichen Simplex Chronicus

Focal Length: 4 mm
F: 2.8
1/30th Second
Center Weight Average Metering

Digital Cameras

- **DoD USB Prohibition**
  - ➢ **Prohibits direct up-load of images from camera via USB cable /card reader**

  - ➢ **Approved solution – upload images to a non-network PC**
    - ✓ **Copy to Compact Disk and scan for malware**
    - ✓ **Attached CD to network computer and upload images**

  - ➢ **Ask the local Commander / IT for an exception to policy**

  - ➢ **Deployed facilities may have DoD compliant cameras / software**

- **Problem**
  - ➢ **Some government desktop / laptop computers do not have the software to make a CD. If that happens contact your IT directorate to have it installed.**

Camera Sites Online

- **Steve's Digicams: http://www.steves-digicams.com**
  - ➢ **For reviews of the best cameras click "The Best Cameras"**

- **Ken Rockwell: http://www.kenrockwell.com**
  - ➢ **Click "Technical" for many excellent how-to articles**

- **Popular Photography: http://popphoto.com**
  - ➢ **Excellent articles, product reviews and tons of tutorials**

- **Adorama: http://www.adorama.com and adorama.com/alc/category/AdoramaTV**
  - ➢ **Excellent digital photography resource center**

- **Digital Camera World: http://digitalcameraworld.com**
  - ➢ **United Kingdom website … excellent tutorials & product reviews**
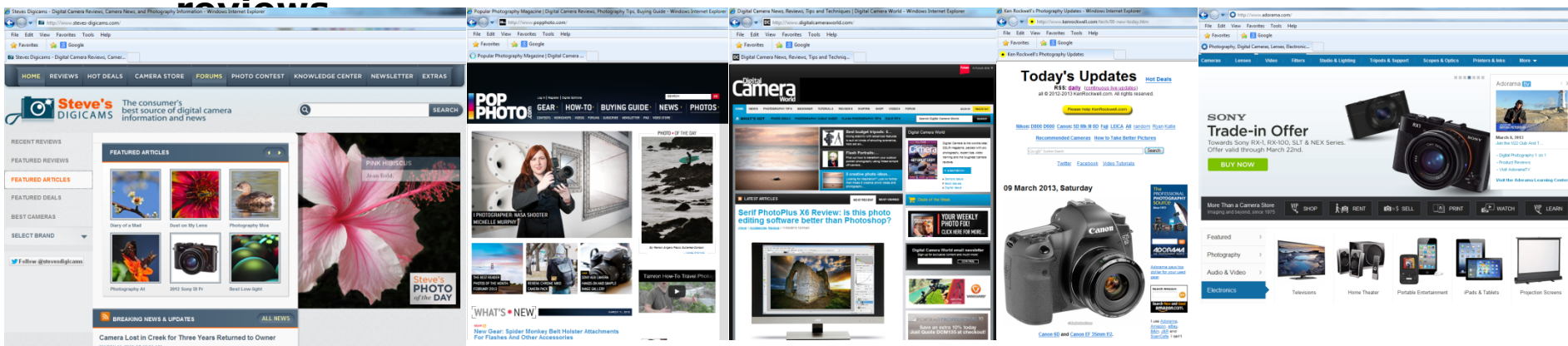
These are just a few of the available websites. Compare the reviews from several before purchasing. Check "User Reviews" to see what others have experienced with the camera.

Setting Up the Camera – Image Size

- Go to Set Up menu ... may be called "Image Size"

- Adjust for 1024 x 750 or closest possible setting

Fujifilm XF1

Nikon CoolPix L610
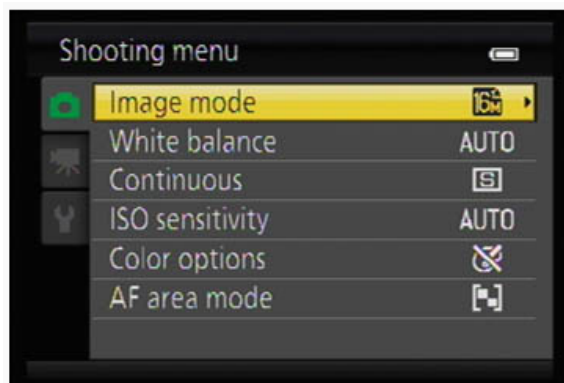
Olympus TG-1 IHS
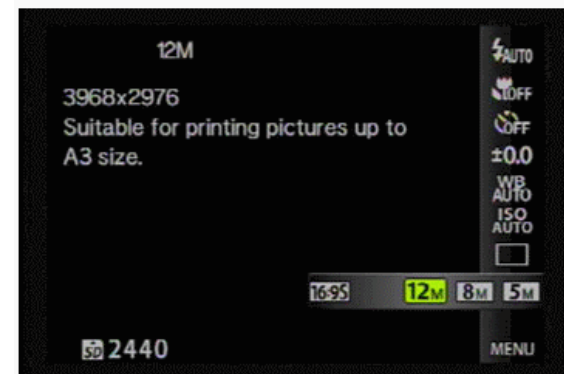
Images taken from http://www.steves-digicams.com

This image was compressed to 5 kB. Compression set to "email." This is too small for an adequate diagnosis. Excessive pixilation when enlarged.

Set compression to "document."

3

Setting Up the Camera – Macro Settings

Canon PowerShot SD880 IS

Seborrheic Keratosis
Deployed Provider - Afghanistan

5 mm   F: 2.8 Pattern No Flash
1/8th Second Shutter Speed

Canon G15

Panasonic Lumix DMC-SZ5

Images taken from
http://www.steves-digicams.com

Panasonic Lumix DMC-LX7

Canon PowerShot G12

Wart
CONUS Telederm Program
6.1 mm   F: 4.0 Pattern No Flash
1/60h Second, -1.33 Exposure Compensation

Canon uses the letters "IS" to indicate the camera uses Image Stabilization

- **Macro setting for a close-up**

- **Look for the "flower" icon**

- **For some point and shoot cameras go into the "Scene" mode or**

3

Focus Lock Technique

- Center the object in the LCD view finder

- Press the shutter button half way down and hold it

- If the camera has a dot, a square or brackets in the LCD display, it may change

  from **Red** to **Green** when the camera thinks the image is in focus

- With the image in focus press the shutter button all the way

  down in a smooth motion … do not jerk the camera … <u>do not</u> take your finger

  off the shutter button until you hear the aperture complete its

Droid

Dx
Allergic Contact
Dermatitis

Both Images: F2.8, Focal Length: 4 mm
1/60th Second, Center Weight Average

Final Thoughts

- If I were deploying today I would bring either a cell phone camera

   or an all-weather camera

- Take a digital camera / cell phone camera on which you are proficient

- An expensive camera does not make you a better photographer

  ➤ High end equipment gives you more options and greater flexibility

     ❑ It shows everyone **how good** or **how bad** your technique is!

? Questions ?

23 November 2012 – Live Oak City Park, TX
Nikon D800 with Nikon 28 - 300 mm lens, Matrix Metering, 300 mm, F5.6, 1/1,000
Second, Pattern Metering,
Adjustments: Adobe Light Room 4.0 and Photoshop Elements 8.0

Addendum

16 September 2012 – Scott Air Force Base, Illinois, US Air Force Thunder Birds
Nikon D800 with Nikon 28 - 300 mm lens, Matrix Metering, 300 mm, F6.3, 1/8,000 Second
Minor Adjustments in Photoshop Elements 8.0

- **Non- DSL Cameras**

  - ➢ **Set the camera to the fully automatic (point and shoot) mode**

  - ➢ **Use the rear LCD display for focusing**

  - ➢ **Place the camera over the eye-piece**

  - ➢ **Get as much of the slide area in the LCD as possible**

    - ✓ **Move the camera around and back and forth**

  - ➢ **Press the shutter button half way down and hold**

  - ➢ **When the image is clearly focused fully press the shutter button**

Epithelial Cells (Sputum)
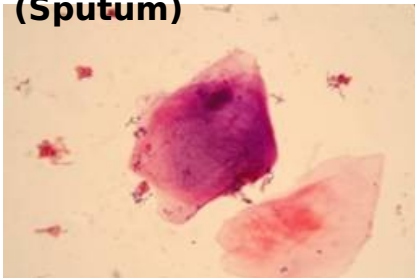
Image Properties
Nikon D50
F-5
38 mm
1/5th Sec
Pattern
EV: -1.0

Bacillus bacteria

Image Properties
Canon Powershot SD750
F-4.5
14 mm
1/8th Sec
Pattern
EV: 0.0

Gram Negative Bacillus
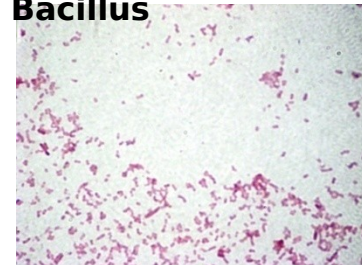
Image Properties
Sony DSC-S650
F-4.8
17 mm
1/40th Sec
Pattern
EV: 0.0

A Short Primer

Using Microsoft Paint

To Make JPEGS

From Radiographs

Saving X-rays As JPEGs Using Microsoft Paint

This section shows you how to use Microsoft Paint to take an X-ray or other radiograph on your computer and convert it to a "jpeg" or "Joint Photographic Experts Group" format using Microsoft Office 2007

If your military computer has Microsoft Office Suites most likely you have Microsoft Paint.

The screenshots in this presentation are from the author's desktop computer.

For this illustration I had to take the jpeg of a previously sent X-ray to our teleconsultation program. On your computer you will retrieve the image from your radiology program

Pull up Microsoft Paint
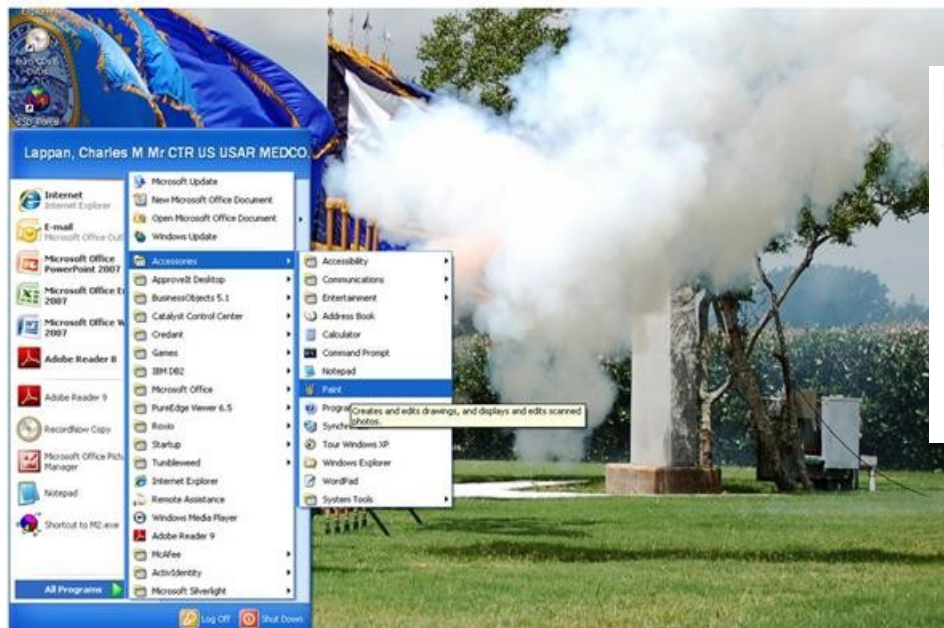
Pull up the radiograph on your computer monitor

Place the radiograph into your computer's temporary memory by hitting the "Control" key (bottom row of your keyboard) and the "Print Screen" key (top row of the keyboard ... 3rd key from the right

Click on the Paint program (it should be in your system tray)

Hit these two keys at the same time: "Control" key and the letter "V"

This is the shortcut for "Paste"

The image now appears in the Paint Program

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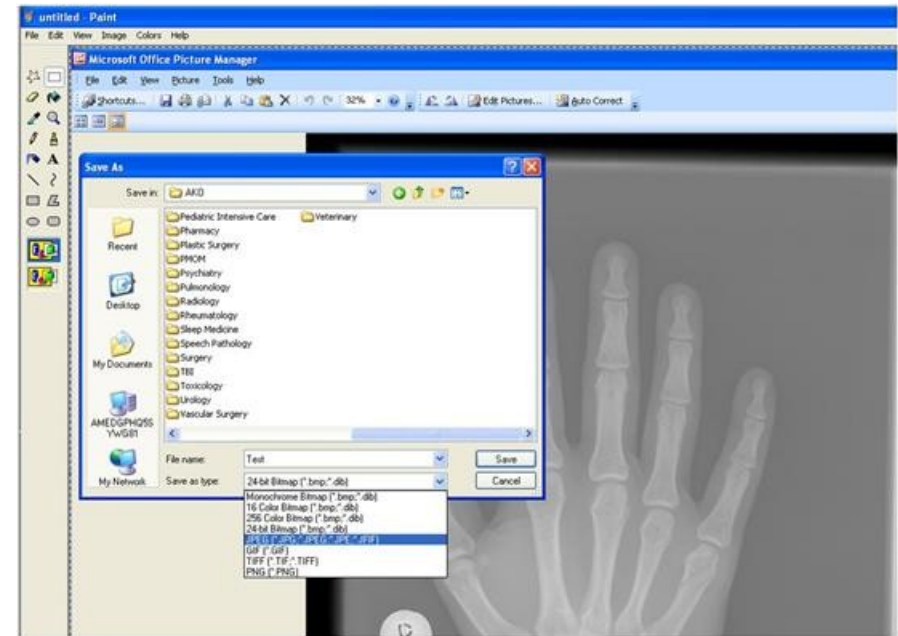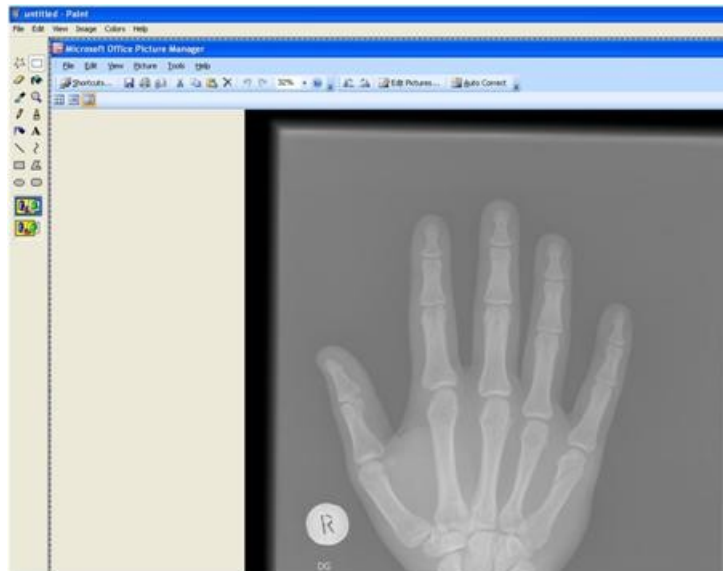
To save the X-ray as a jpeg in the Paint Menu

➢ Click "File"

➢ Click "Save As"

➢ The "Save As" box will open

   ✓ In the "Save In" box select the location where you will save the file

   ✓ Give the X-ray a new name in the "File Name"

   ✓ For the "Save as type" select "JPEG"

The image size is small but it should be acceptable for orthopedics to make a diagnosis
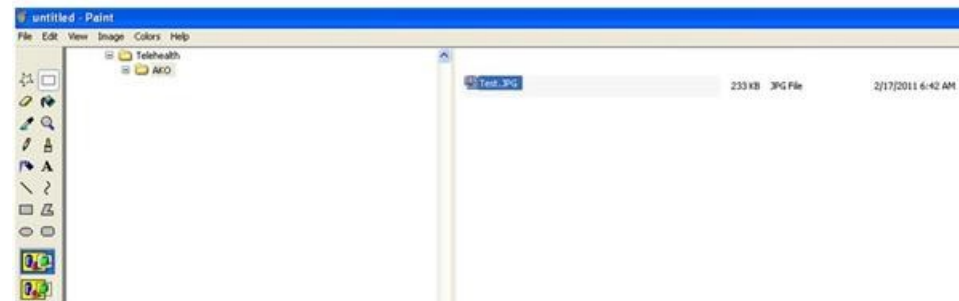
A Short Primer

De-Identifying

Facial

Features

- This presentation shows you how to de-identify a patient's facial features

- My premise is you are submitting a photograph to a telemedicine consultant and you wish to de-identify a facial feature to comply with privacy regulations

- The example photograph was taken of me in 2011 at the Southern Regional Medical Command by one of my colleagues

Chuck Lappan, LTC (Ret)

- This is the original image
- To comply with privacy regulations I want to mask my eyes
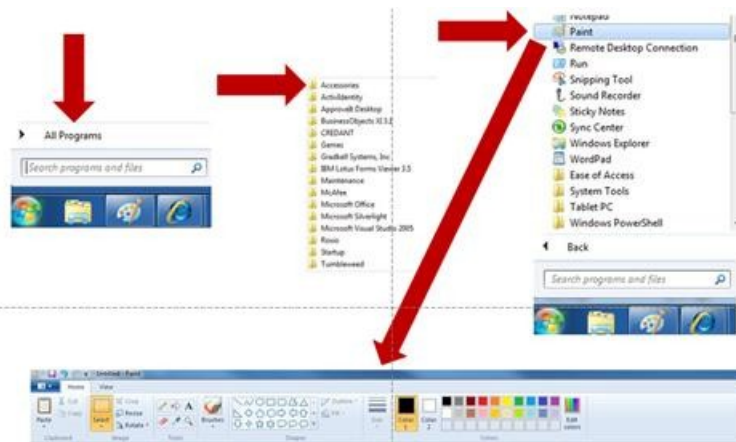
- To start the process I opened Microsoft "Paint"

- Click the page icon on the far left and scroll down to "Open"
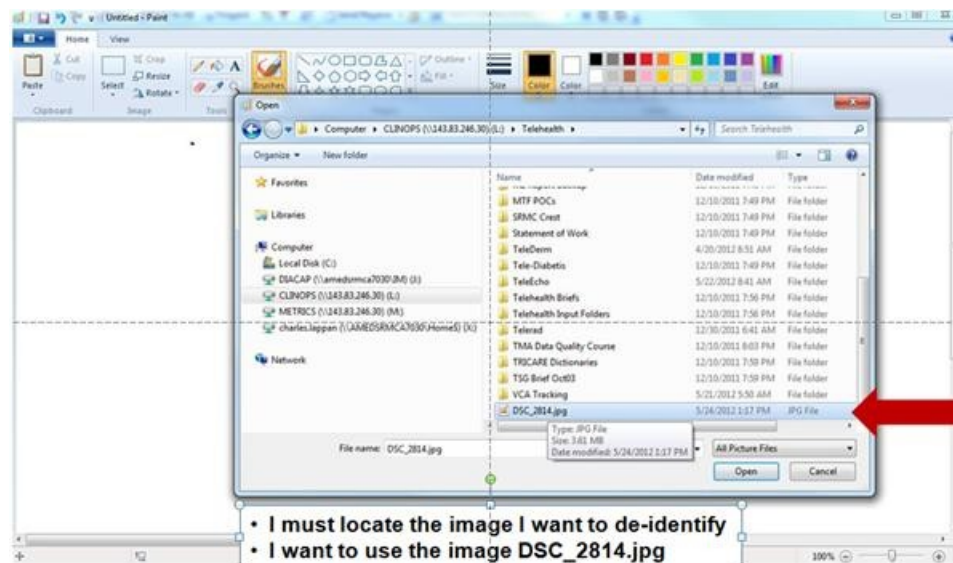
- I must locate the image I want to de-identify
- I want to use the image DSC_2814.jpg
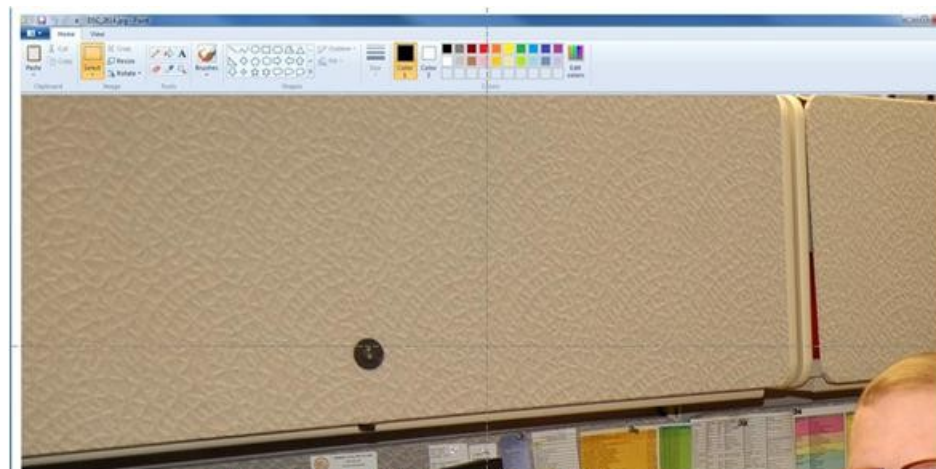
- When I opened the image it was too large
- I need to make the image smaller so I can work on it

- To reduce the image size so I can work on it, I click "View"
- I use the "Zoom Out" icon to reduce image size on my computer screen

- The image fits on my computer screen

- To mask my eyes I clicked the "Home" button and then the "Select" button

- I draw a box around my glasses

- I click the "Delete" key on my keyboard to remove my glasses and my eyes

- For detailed work I use the "Erasure" tool
- When I use the "Erasure" tool I check the color that I want to use when I de-identify the image

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- I can also use the "Select" tool to copy just part of the image

- I renamed image as **DSC_2814_Deidentified**
- For the file type, I chose JPEG
- I do not save the de-identifed image with the original file name
- I never know if I am going to need it at a future date

- When I am done I must save the de-identified image
- Click the far right icon on the top menu
- Click "Save As"
- Select "JPEG picture"

- Open the image to ensure it is working properly

- The image is the way I want it
- It is ready to email it to the telemedicine consultants

Examples of de-identified images submitted to the AKO Teleconsultation Program

Acne

Acne Excoriee
In this example I used the erasure tool in Paint to mask the eyes

Basal Cell Carcinoma
In these example I used Select button (Slide 10) to copy and paste just the top part of these patient's heads to de-identify them

Chalazion

Miliaria rubra

Lamellar Ichthyosis

Varicella

47

Image Compression Using Picture Manager
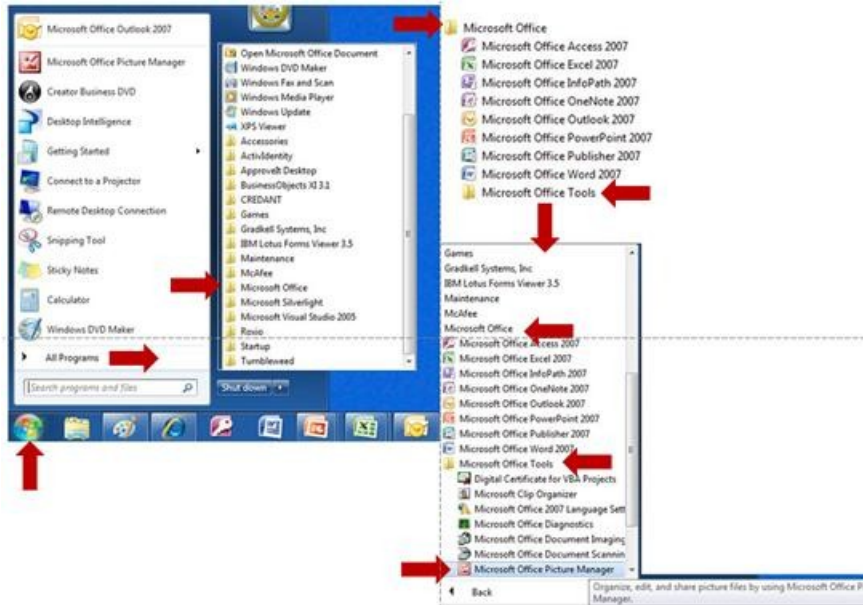
Locate Picture Manager: All Programs ... Microsoft Office ... Microsoft Office Tools ... Microsoft Office Picture Manager

Other Files Exist

The selected locations do not contain pictures to preview, but other files exist.
To view these files, on the View menu click Show Pictures Only.

You have several options to find your pictures

If you don't know where the pictures are located click "Locate pictures"

Picture Manager will scan your drives and look for pictures using the jpeg format

If you have a large file this may take a while

If you know where the pictures are located click "Add a new picture shortcut"
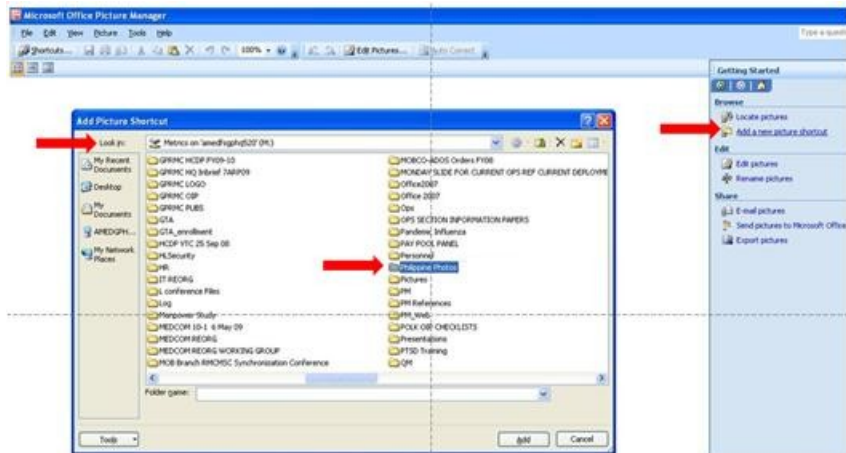
In our example we know the photos are located in the M-Drive

First we clicked "Add a new picture shortcut"

Under "Look In" we clicked the M-Drive

We scrolled to the file "Philippine Photos "

The pictures are located in a sub-folder called "Philippine Photos for EO"

With this folder located we clicked "Add"
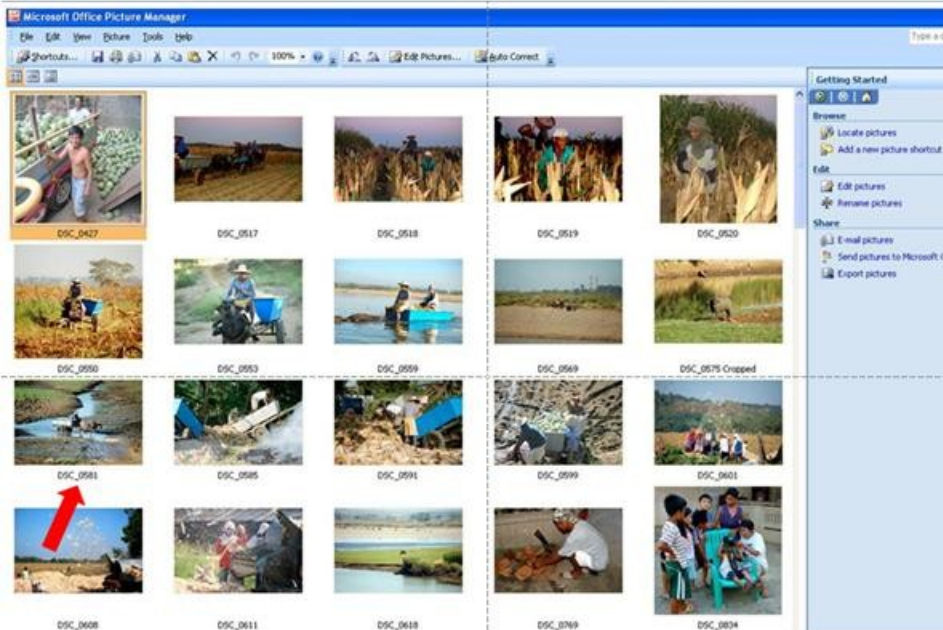
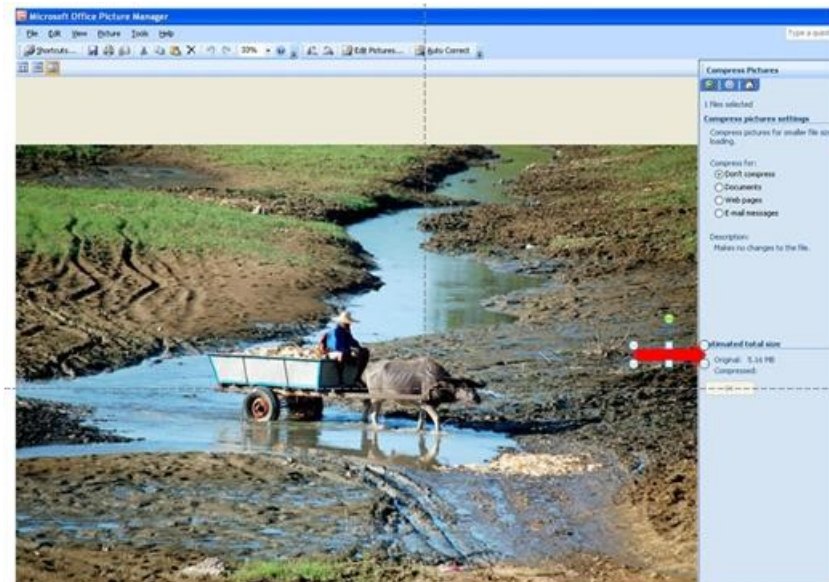**Picture Manager displays all of the pictures as thumbnails**

Use the scroll bar to locate the image you want to compress and click on the image

To compress the picture click "Edit pictures"
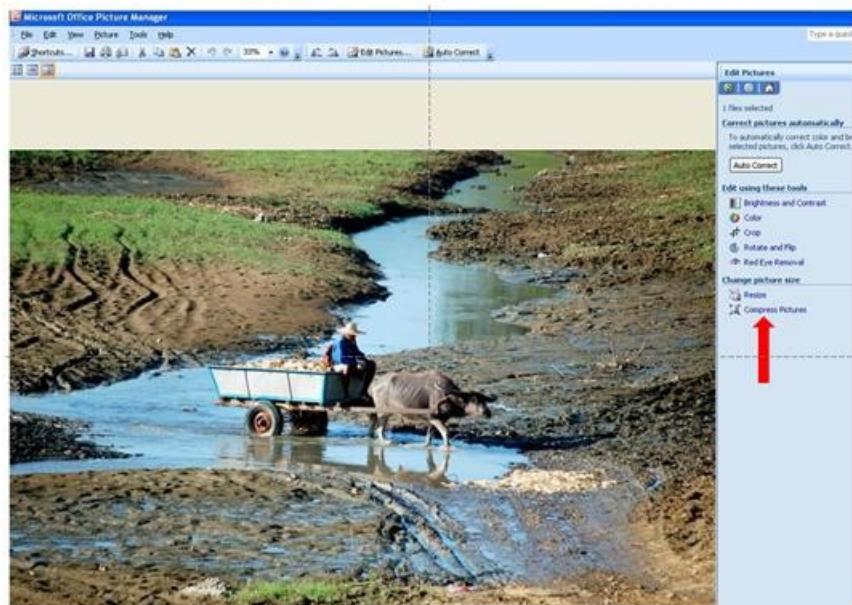
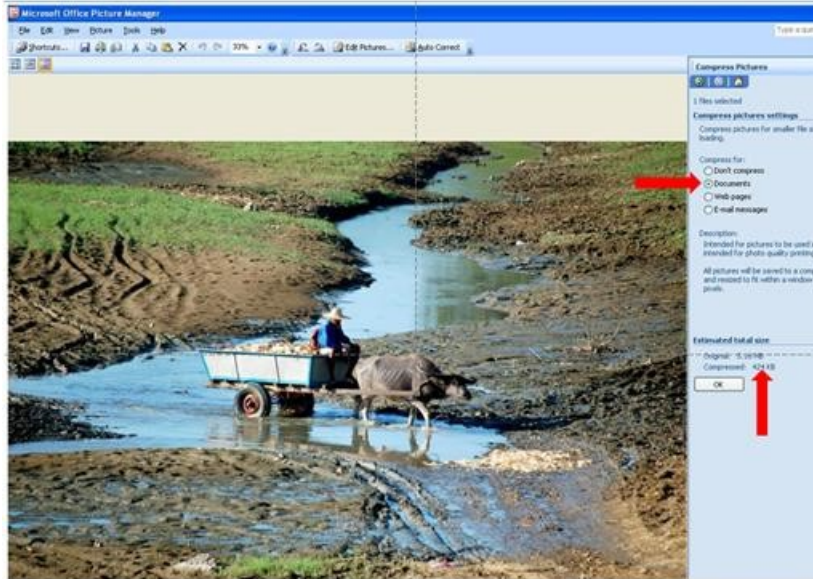**To compress the picture click "Compress Pictures"**
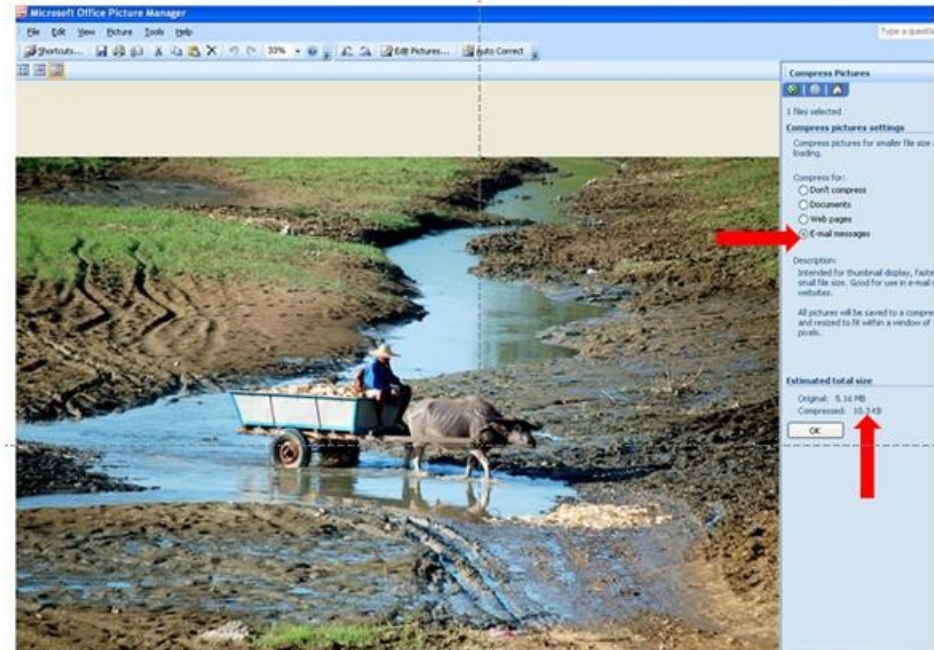

You have several compression options
The original size of the picture is shown under "Estimated total size"
**In our example the Original Picture is 5.16 MB**
Since we did not select a compression the Compressed size is blank

If we click "Compress for Documents" the compressed
size is reduced from 5.16 MB to 424 KB.
This is a good size for telemedicine

If we click "Compress for E-mail messages" the compressed size is
reduced from 5.16 MB to 10.3 KB.
This reduces the file size so small it is not good for telemedicine
When the consultant tries to enlarge it on their computer there will be
too much pixilation (blurriness of the image) for an accurate diagnosis
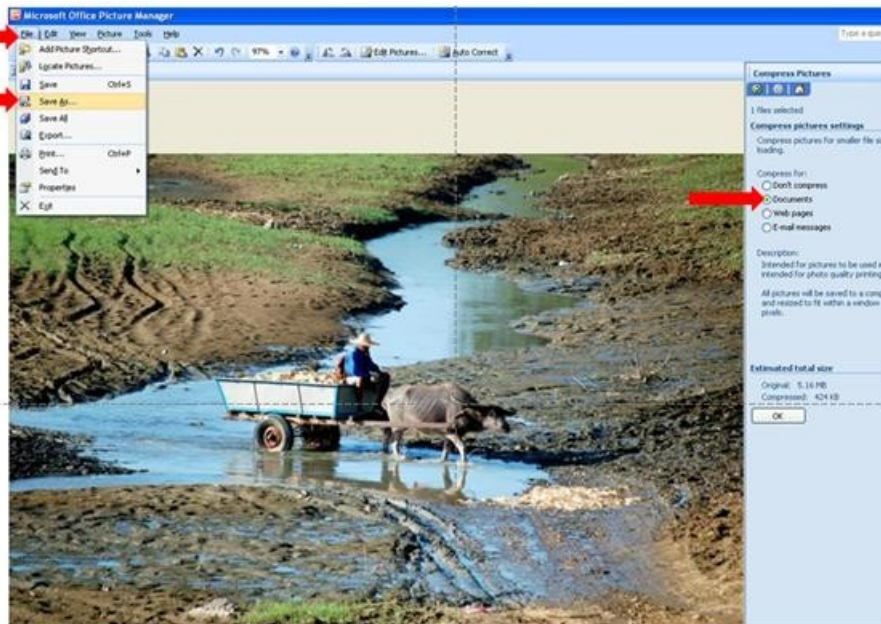
We decided to save the picture as a "Document"
To save the image so you can email it Click "File"
Click "Save As"
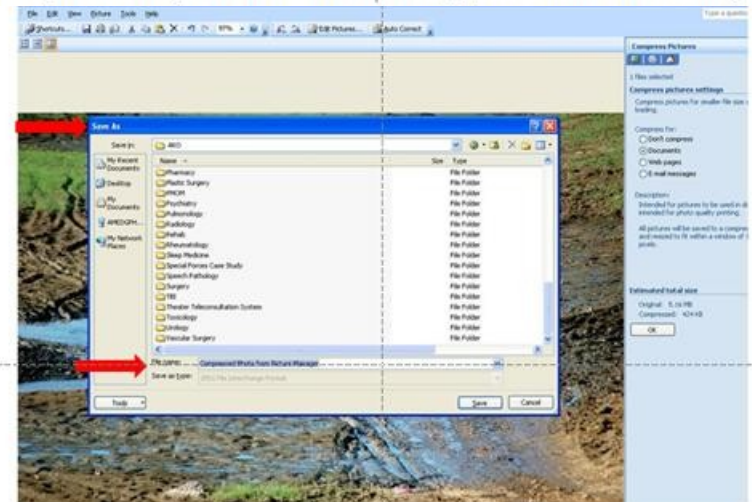
Save the picture in the folder where you keep it for emailing
In our example we saved the picture in a different folder called "AKO"
We called the File Name of "Compressed Photo from Picture Manager"